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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,093	09/26/2003	Steven E. Brown	03073CIP	7533
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Cabot Corporation/ LAK Cabot Corporation, Law Department 157 Concord Road Billerica, MA 01821			EXAMINER ALEXANDER, LYLE	
			ART UNIT	PAPER NUMBER
			1797	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/673,093

**Applicant(s)**

BROWN ET AL.

**Examiner**

LYLE A. ALEXANDER

**Art Unit**

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 January 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5, 7, 9-11, 13-29, 31-34, 56-58, 60 and 135 is/are pending in the application.
- 4a) Of the above claim(s) 14-15, 18-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 9-11, 13, 16, 17, 32-34, 56-58, 60 and 135 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-940)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

In response to the 1/11/10 Appeal Brief, the record requires clarification of what claims should have been finally rejected and should be considered under appeal. Specifically, the 5/9/08 election of species is directed to interfacial potential wicking rates. Some of the claims were erroneously finally rejected by the Office because the claims were not directed to the elected species. The purpose of this new non-final office action is to clarify what claims are rejected over the prior art and what claims are withdrawn to a non-elected species. Additionally, the Office has dropped the double patenting rejection in light of the 12/5/08 terminal disclaimer which renders this issue moot. Finally, the Office has replaced the 35 USC 103 rejection of claim 7 over Cuch et al. in view of Sampei with a new rejection of Cuch et al. in view of Drury et al. because Sampei does not qualify as prior art.

This application contains claims directed to the following patentably distinct species ;

interfacial potential by masstone, interfacial potential by gas adsorption techniques, interfacial potential from adsorption from solution, interfacial potential from light scattering or disc centrifuge, interfacial potential by oil absorption, interfacial potential by wicking rates, interfacial potential by rheological tests, interfacial potential by sedimentation volumes, interfacial potential by phase segregations, interfacial potential by inverse gas chromatography, interfacial potential by spreading pressure, interfacial potential by drop contact angle, interfacial potential by measuring the pressure of gas to remove a probe liquid from the pores of a packed bed of the particulate material after it has been filled or partly filled by the liquid, interfacial potential by measuring the centrifugal force necessary to immerse particles of the particulate material floating on a probe liquid, interfacial potential by measuring the two-dimensional pressure sufficient to force particles of the particulate material floating on a probe liquid in a Langmuir trough, interfacial potential by measuring the relative adsorption of dye probes, interfacial potential by measuring the heat when the particulate material is immersed into a probe liquid, interfacial potential by measuring the heat released when a test adsorbate is adsorbed by the particulate material, and interfacial potential by measuring the sediment volumes in an homologous series of test liquids.

1. The species are independent or distinct because claims to the different species recite the mutually exclusive characteristics of such species. In addition, these species are not obvious variants of each other based on the current record.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-5, 7, 9-11, 13, 16-17, 32-34, 56-58, 60 and 135 are generic.

There is an examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

**Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species to be examined** even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected species**, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

The election of the species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are

added after the election, applicant must indicate which of these claims are readable on the elected species.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

Applicant elected "wicking rates" in their 5/9/08 response. The result of this election is that claims 1-5,7, 9-11,13,16-17,32-34,56-58,60 and 135 are pending for the purposes of the below Office action.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 9-11,13,16-17,32-34,56-58,60 and 135 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Cuch et al. (USP 6,482,883).

Independent claims 1 and 56 state the performance property could be either "homogeneous interaction ..." or "heterogeneous interaction ...". For the purposes of examination, the Office will consider the "homogeneous interaction" alternative.

Additionally, the 5/9/08 election of species elects "interfacial potential by wicking rates." In light of the election, the Office will interpret the "homogeneous interfacial parameters" as a "wicking rate."

Cuch et al. teach an ink jet coating composition comprising a pigment of blended of silica, a blend of polyvinyl alcohol and a cationic resin. Cuch et al. teach in column 2 lines 58+ providing an aqueous ink jet coating composition that demonstrates a balance of properties including improved imaging performance and good water resistance comprising a blend of silica, alcohols and a cationic resin. The silica have been read on the claimed "particulate material" and the polyvinyl alcohol/cationic resin have been read on the claimed "matrix." Column 3 lines 51-56 teach the silica is fumed silica which is identical to that of claim 9. Columns 9-10 lines 18+ teach testing the ink composition's image density by the "Black Wicking Rating" or BWR. The BWR testing has been read on the elected species "wicking rate" and claimed "homogeneous interaction parameter ... relates to how the particulate material interacts with itself ...".

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cuch et al. in view of Drury et al. (USP 3,950,290).

See Cuch et al. supra.

Cuch et al. teach the particulate material is a silica and are silent to the claimed carbon black particulate.

Drury et al. teach an aqueous coating and printing composition. Column 12 lines 13-51 teach that conventional pigment material, such as silica and carbon black can be

used in ink compositions. The Office has read Drury et al. as teaching silica and carbon black are well known equivalent pigment materials in ink compositions.

It would have been obvious to simply substitute one known element for another to obtain predictable results. In this instance, the ink pigment particles have been equated to the "known element." It would have been obvious to modify Cuch et al. in view of Drury et al. and substitute carbon black for the silica particles to achieve the well known and expected results of an alternative or equivalent pigment. This substitution would result in the BWR test taught by Cuch et al. being performed on an ink particulate blend containing carbon black which has been properly read on claim 7.

***Response to Arguments***

2. Applicant's arguments filed 1/11/10 have been fully considered but they are not persuasive.



Appellants' remarks on pages 17 through the first full paragraph on 24 have been considered and provide background information on the claimed invention. However, these remarks are not commensurate in scope with the pending claims and do not require further comment.

In the second full paragraph on page 24 through page 25, Appellant state Couch et al. fails to teach measurement of at least one homogeneous interaction parameter for the **particulate material alone**. The instant claim language is "comprising" which is open claim language and does not exclude additional materials in the composition being tested by Couch et al. The Office maintains Couch et al. has been properly applied under 35 USC 102(b).

In the first full paragraph on page 25 through page 26, Appellant argues the black wicking rate analysis taught by Couch et al. fails to teach an interaction parameter of how the silica interacts with itself. Appellant states Couch et al. teaches analysis of the silica mixed with binders and cationic resins. The Office maintains Couch et al. teach determination of a black wicking rate parameter of a composition containing silica and has been properly read on the pending claims. The Office reiterates the comments made above that the instant claim language of "comprising" is open and does not exclude the presence of other materials, such as binders and cationic resins, in the composition being tested.

On page 27, Appellants traverse the position taken by the Office that Couch et al. **inherently** teaches the claimed interaction of silica particles with each other. Couch et al. teach the identical black wicking rate test on an indistinguishable silica containing

compound and subsequent calculation of a parameter. The Office maintains the parameter calculated by Cuch et al. are identical to that claimed and inherently includes the interaction of the silica particles contained therein.

On page 28 Appellants state Cuch et al. fail to teach the claimed alternatives and/or additional measurements of the instant claims. The Office has made clear how the claims have been interpreted regarding the alternative language. Cuch et al. properly anticipates the identified claims because Cuch et al. teach one of the claimed alternatives. The Office maintains Cuch et al. teach the claimed invention and is not required to teach other, alternative embodiments to anticipate the claims.

On page 29 and in the paragraph the continues on page 30, Appellant states the Office has provided two different materials, the paper and polyvinyl alcohol/cationic resin, that have been read on the claimed matrix. Appellant states if either the paper or the polyvinyl alcohol/cationic resin were read on the claimed "matrix", Cuch et al. still fails to teach a measurement of a homogenous interaction parameter for a particulate material. The Office maintains the instant claim language is sufficiently broad that either the paper or the polyvinyl alcohol/cationic resin are properly read on the claimed "matrix". Furthermore, the above remarks have reiterated that Cuch et al. teaches a black wicking rate test of the silica particles in the composition and are indistinguishable from the instant claims.

On page 30 Appellant states Cuch et al. fail to teach addition of the silica particles based upon the measured performance of the particles. Column 8 teaches different ink composition that will be tested. Column 9-14 provide the data of the black

wick rate testing and based upon this data the suitability of silica particles. The Office has read this on the claimed adding the particles to the composition based upon their black wicking rate properties.

On pages 32-37 Appellant traverses the rejections of claims 2-4 over Cuch et al., stating the taught black wicking rating does not permit the measurement of the particulate material. Cuch et al. teach in columns 9-14 comparisons made based on black wicking rate testing of the particulate material in the ink composition.

On page 38-39 Appellant traverses the rejections of claims 32-33 on the grounds that Cuch et al. does not teach determining the interfacial property values of a "surrogate matrix" that is related to a customer's formulation. In the absence of actually claiming what the formulation is, the instant claim language is sufficiently broad to have been properly read on the multiple test composition taught by Cuch et al. in columns 9-14. Appellant also argues the matrix taught by Cuch et al. does not have a "predetermined interfacial potential property value". The claim language directed to "predetermined" is sufficiently broad to be read on the taught matrix because the taught matrix has a value prior to measurement and has been properly read on the claimed "predetermined" value.

On pages 40-41 Appellant traverses the rejection of claim 56 and incorporates remarks previously made to claim 1. The Offices also maintains the positions stated above directed to claim 1. The Office reiterates the above position and maintains the claim language is "comprises" which is open and does not exclude the additional compounds in the ink composition taught by Cuch et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LYLE A. ALEXANDER whose telephone number is (571)272-1254. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LYLE A ALEXANDER/  
Primary Examiner, Art Unit 1797